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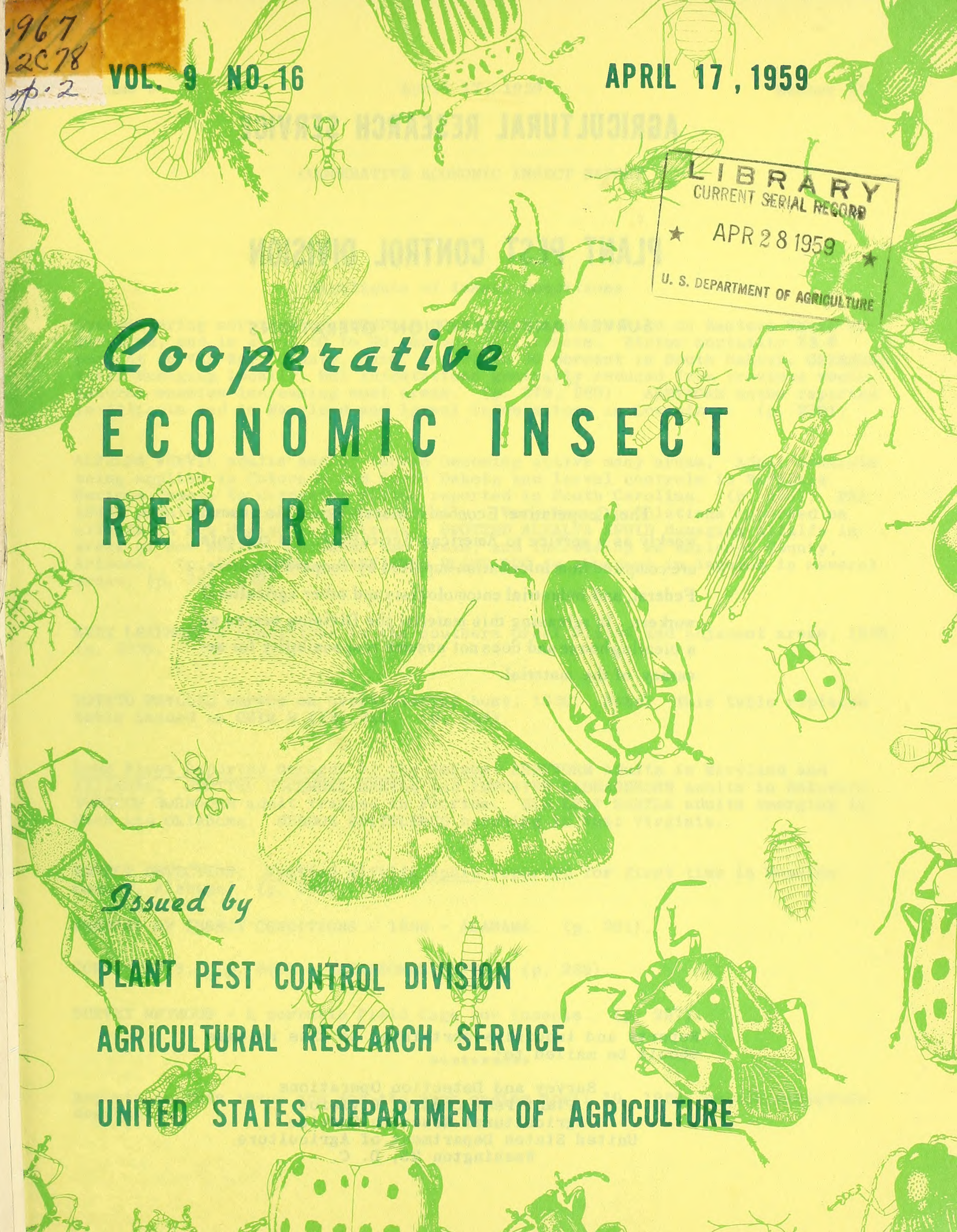

Cooperative ECONOMIC INSECT REPORT

Issued by

PLANT PEST CONTROL DIVISION
AGRICULTURAL RESEARCH SERVICE
UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

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Volume 9 April 17, 1959 Number 16

COOPERATIVE ECONOMIC INSECT REPORT

Highlights of Insect Conditions

Overwintering survival of EUROPEAN CORN BORER appears high on Eastern Shore of Maryland, and is about 50 to 60 percent in Illinois. Winter mortality 73.6 percent in Van Wert County, Ohio, and 18 to 30 percent in South Dakota. GREENBUG still damaging locally, but infestations generally reduced from previous weeks. Natural enemies increasing most areas. (p. 279, 289). ARMYWORM moths reported in Illinois and in Maryland and larval infestations in Louisiana. (p. 279).

ALFALFA WEEVIL adults and/or larvae becoming active many areas. Adult controls being applied in Colorado and South Dakota and larval controls in Virginia. Serious damage to untreated fields reported in South Carolina. (p. 280). PEA APHID populations building up generally. Very heavy populations reported on alfalfa in New Mexico and Arizona. SPOTTED ALFALFA APHID damaging alfalfa in areas of New Mexico, Oklahoma and Texas, and increasing in Maricopa County, Arizona. (p. 281, 289). TARNISHED PLANT BUG is abundant in legumes in several areas. (p. 282, 289).

BEET LEAFHOPPER conditions in the Southern Great Plains and adjacent areas, 1959. (p. 283).

POTATO PSYLLID survey on overwintering host, 1959. Note: This table replaces table issued in CEIR 9 (13):216. (p. 284).

Some First Reported Records of the Season: ARMYWORM adults in Maryland and Illinois. SPOTTED CUCUMBER BEETLE and IMPORTED CABBAGEWORM adults in Delaware. TOBACCO HORNWORM adult trapped in Florida. ELM LEAF BEETLE adults emerging in Utah and Oklahoma. MEADOW SPITTLEBUG hatching in West Virginia.

INSECT DETECTION: Spotted alfalfa aphid reported for first time in Houston County, Alabama. (p. 289).

SUMMARY OF INSECT CONDITIONS - 1958 - ALABAMA. (p. 291).

CORRECTIONS. (p. 289). ADDITIONAL NOTES. (p. 289).

SURVEY METHODS - A portable Field Cage for Insects. (p. 297).

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Reports in this issue are for the week ending April 10, 1959, unless otherwise designated.

WEATHER OF THE WEEK ENDING APRIL 13

Last week was characterized by extreme temperature changes east of the Continental Divide as winter returned to most of the Nation. Unseasonably warm weather preceded cold air from the Great Plains eastward and was followed by abnormal cold over the Rocky Mountains. For the week temperatures averaged 6° or more above normal along the middle Atlantic coast and in the Central Valley of California, and 9° to 15° below normal over parts of Colorado and Wyoming. Precipitation was mostly moderate from Texas northeastward, with little or none over the Pacific States and the northern Great Plains. On the 7th and 8th an area of low pressure moved across southern Canada, with a cold front extending southwestward across the Plains. High winds and thunderstorms, some with hail, accompanied the front in the upper Mississippi Valley. During the next 2 days cold air spread southeastward to cover all the country, except the extreme Southeastern States. Record-high temperatures were reported from Colorado and South Dakota on the 6th, when Kennebec, South Dakota, reported 92°. Along the east coast 80° readings as far north as southern New York and New England were reported on the 8th and 9th. Urban Baltimore recorded 92° and Washington, D. C., 90° on the 9th, records for the date. Tatoosh Island, Washington, also had 69° on the 9th, a record for so early in the season. Wintry conditions rapidly followed the high temperatures over the Rockies and Great Plains. By the 9th freezing weather extended from northern Arizona and northern Arkansas to the central Great Lakes. Extreme cold, with many record-low temperatures, covered the central Rockies and northern Plains during the latter part of the week. Custer, South Dakota, recorded 4° on the 9th, Bemidji, Minnesota, 10°, and Cheyenne, Wyoming, -3° on the 10th.

Snow persisted over the mountains as far south as New Mexico throughout most of the week and extended across the Plains from the Oklahoma-Texas panhandles northeastward to the western Great Lakes. Heavy falls of over one foot of fresh snow were reported from the higher elevations in Colorado and Wyoming. The snow caused some traffic delays due to blocked roads. Up to 4 inches of wet snow and good rains provided from 1 to 2-1/2 inches of much-needed moisture in southwestern Oklahoma, where precipitation has been under 25 percent of normal for the last 6 months. Over 10 inches of heavy, wet snow fell locally in extreme southwestern Minnesota during the night of the 10th, and lighter amounts were received in Kansas, Nebraska and South Dakota. However, moisture remains short over much of the northern Plains. High winds and critically dry topsoil raised one of the worst duststorms since the 1930's over the Dakotas, Minnesota and Wisconsin on the 6th and 7th. In Texas general rains were reported on 5 consecutive days, beginning on Wednesday. Heaviest amounts were reported along the upper coast with only light rain in the trans-Pecos and north Texas. At the end of the week a low-pressure disturbance moved from the Gulf of Mexico northeastward across the south atlantic States, leaving moderate to heavy rains (up to 1.98 inches in a 6-hour period at Mobile, Alabama, on the 12th) from Louisiana and Alabama northeastward to southern Virginia, and 1 to 6 inches of snow over West Virginia, Maryland and Pennsylvania on the 12th. (Summary supplied by U. S. Weather Bureau).

CEREAL AND FORAGE INSECTS

EUROPEAN CORN BORER (Pyrausta nubilalis) - MARYLAND - Overwintering survival appears high on Eastern Shore. Averaged 100 larvae per 100 partial cornstalks left on surface of plowed field at Cambridge and 50 per 100 cornstalks at Hebron, Wicomico County. Pupation underway in Wicomico County. (U. Md., Ent. Dept.). NORTH CAROLINA - Pupation about 50 percent completed in Carteret County. (Farrier). ILLINOIS - Survival about 50 percent in western and northern areas and about 60 percent in central area. (Ill. Ins. Rpt.). OHIO - Populations reduced 73.6 percent in Van Wert County as of April 2. (Triplehorn). SOUTH DAKOTA - Winter mortality approximately 18 percent in northeast area. (Mast).

GRASSHOPPERS - NEW MEXICO - Beginning to hatch in Dona Ana, Lea, Roosevelt and Quay Counties. (N. M. Coop. Rpt.). CALIFORNIA - Chimarocephala pacifica medium in barley and wheat in Cuyama, Santa Barbara County. (Cal. Coop. Rpt.).

CORN FLEA BEETLE (Chaetocnema pulicaria) - TEXAS - Caused some damage to young corn in Burleson County. (Hawkins). ILLINOIS - Averaged 15 per 100 sweeps in west southwest section. (Ill, Ins. Rpt.).

CHINCH BUG (Blissus leucopterus) - TEXAS - Survey of 13 counties in south central, upper coastal and coastal bend areas showed overwintering adults to range from none to an average of 5 per young corn and grain sorghum plant. Some controls being applied. (Hawkins). KANSAS - Two found in about 1-1/2 feet of row in 2 barley fields in Harvey County. (Esau).

ARMYWORM (Pseudaletia unipuncta) - MARYLAND - First moths of season taken at Fairland, Montgomery County. (U. Md., Ent. Dept.). LOUISIANA - Very light in oats in East Feliciana, West Feliciana and East Baton Rouge Parishes. (Spink). ILLINOIS - Adults observed as far north as Champaign. (Ill. Ins. Rpt.).

GREENBUG (Toxoptera graminum) - LOUISIANA - Very light in oats in East Feliciana, West Feliciana and East Baton Rouge Parishes. Predators and parasites active. (Spink). ARKANSAS - Low in small grains in northwest part of State. Heaviest infestations averaged 8-10 per linear foot. (Ark. Ins. Sur.). OKLAHOMA - Total of 844 small grain fields observed in Payne, Noble, Kay, Garfield, Kingfisher, Logan and Blaine Counties. Damage greatly reduced due to treatments or rainfall which caused plants in many fields to "outgrow" greenbug. Natural enemies also increasing rapidly in some unsprayed fields. Little additional damage expected in these counties this spring. (Henderson, Thompson). Populations common, but fluctuating, in Wood, Alfalfa and northwestern Garfield Counties. No treatments reported. (Owens). Populations low in Woodward and Roger Mills Counties and spotty in Caddo County. (Hudson). Light in southeastern area, less than 10 per linear foot in most fields. (VanCleave, Pela, Goin). KANSAS - Counts per 1-1/2 feet of row of barley averaged 6 nymphs and 1.6 adults in Harvey County; 15.4 nymphs and 1.4 adults in Reno County; 12 nymphs in Dickinson County; 10.5 nymphs and 1 adult in Marion County; 30 nymphs and 2.3 adults in McPherson County. Counts per 1-1/2 feet of row of wheat were 3 nymphs in Dickinson County and 15 nymphs in Marion County. (Esau). Two wheat fields in Labette County had 13 and 95 per 10 sweeps. (Peters). TEXAS - Ranged light to 2,500 per linear foot on wheat in Hansford and Hutchinson Counties. Predators increasing. (Daniels) Light in Dallas County. (Texas Coop. Rpt.). Being held in check by beneficial insects in Rockwall County. (Davis). NEW MEXICO - Very light to heavy on small grains in Quay, Curry, Roosevelt, Chaves and Eddy Counties. Averaged over 1,000 per linear foot in large areas in several Curry County fields. (N. M. Coop.Rpt.).

ENGLISH GRAIN APHID (Macrosiphum granarium) - OKLAHOMA - Dominant aphid species found in small grain fields in Bryan, Choctaw and McCurtain Counties. Counts ranged up to 50 per linear foot some fields, lower most fields. (VanCleave, Pela, Goin). KANSAS - Counts ranged 8-95 per 10 sweeps in 3 wheat fields in Labette and Cherokee Counties. Adults comprised 20-50 percent of population and 10-50 percent of adults winged. (Peters).

CORN LEAF APHID (Rhopalosiphum maidis) - NEW MEXICO - Moderately heavy in barley fields near Artesia, Eddy County. (N. M. Coop. Rpt.).

A LEAFHOPPER (Dikraneura carneola) - UTAH - Moderate on margins of winter wheat fields at Riverton, Salt Lake County, and in Cedar Valley, Utah County. (Knowlton).

BROWN WHEAT MITE (Petrobia latens) - NEW MEXICO - Light in wheat fields in Curry, Quay, Roosevelt and Chaves Counties. (N. M. Coop. Rpt.). UTAH - Light to moderate in West Jordan-Copperton-Riverton area of Salt Lake County and Cedar Valley area of Utah County. (Knowlton). CALIFORNIA - Medium on range grasses in the Avenal area of Kings County. (Cal. Coop. Rpt.).

WINTER GRAIN MITE (Penthaleus major) - OKLAHOMA - Heavy in spots in two wheat fields in Apache area, Caddo County, and causing damage in field of small grain in Bryan area, Alfalfa County. (Hudson, Owen).

FALSE WIREWORMS (Eleodes spp.) - SOUTH DAKOTA - Averaged 2 per linear foot of row in winter wheat in west central area. (Mast).

BRONZED CUTWORM (Nephelodes emmedonia) - ILLINOIS - Averaged 42 per 100 sweeps in bluegrass in west southwest area. (Ill. Ins. Rpt.).

ALFALFA WEEVIL (Hypera postica) - DELAWARE - First adults (probably overwintering forms) found on alfalfa, Sussex County. First-instar larvae on clover in New Castle County. First and second-instar larvae common on clover and alfalfa, Kent and Sussex Counties. (Burbutis, Conrad). MARYLAND - Larval activity increased on Eastern Shore and in central area. Surveys of alfalfa in Carroll, Dorchester and Worcester Counties showed 5-50 percent of plants infested with larvae. Adults common in most sections. (U. Md., Ent. Dept.). VIRGINIA - Larvae and adults light to severe, causing some damage. Controls begun in some areas. (Morris et al.). SOUTH CAROLINA - Serious damage observed on untreated alfalfa fields in Cherokee, York, Chester and Newberry Counties. Less serious damage in Anderson County. Extremely low populations noted in treated fields in above counties. (Nettles et al.). GEORGIA - Larvae averaged 25 per sweep on alfalfa in Franklin County, 22 in Oconee, 15 in Putnam, 26 in Jones, 30 in Johnson and 80 in Hancock Counties. (Johnson). IDAHO - Adults common in alfalfa fields near Whitebird, spotted near Wilder. Populations very low. (Foote, Portman). SOUTH DAKOTA - Adult controls being applied in some west central counties. (Mast). COLORADO - Adults found on warm days in Otero, Crowley, Pueblo, Larimer and Weld Counties. No larvae found. (Exp. Sta.) Spraying underway for adult control in western area, starting March 15 in Mesa County and March 23 in Delta, Montrose and Garfield Counties. Adult populations high where control not being applied. Increase in larval damage expected due to farmer negligence. (Exp. Sta.).

CLOVER LEAF WEEVIL (Hypera punctata) - DELAWARE - Larvae common on clover, Kent and Sussex Counties. Present on alfalfa in Kent County. (Burbutis, Conrad). VIRGINIA - Larvae present in alfalfa fields in southern Augusta County. (Woodside). ILLINOIS - Larvae active in southern clover and alfalfa fields; highest in southwest area. (Ill. Ins. Rpt.). UTAH - Caused spotted injury to alfalfa in several areas of Salt Lake County. (Knowlton). IDAHO - Larvae quite common in alfalfa crowns in Whitebird area. (Foote, Portman).

CLOVER ROOT CURCULIO (Sitona hispidula) - DELAWARE - First adult observed on clover, Sussex County. (Burbutis, Conrad). MARYLAND - Light on alfalfa in Calvert County. (U. Md., Ent. Dept.). VIRGINIA - Larvae damaged roots of alfalfa in a Botetourt County field and a field in Pulaski County, causing some plants to die and reducing the stand. (Rowell, Brown, McBride). IDAHO - Light, spotted adult infestations in Wilder area. (Hart, Bechtolt).

SWEETCLOVER WEEVIL (Sitona cylindricollis) - ILLINOIS - Averaged 12 per square foot in field in southern part of State. (Ill. Ins. Rpt.).

ELONGATE FLEA BEETLE (Systena elongata) - MARYLAND - Adults averaged 1 per sweep on alfalfa at Huntington, Calvert County. (U. Md., Ent. Dept.).

PEA APHID (Macrosiphum pisi) - DELAWARE - Continues to build up on alfalfa in Sussex County. Present on clover in same general area. (Burbutis, Conrad). MARYLAND - Building up and averaged over 30 per sweep on alfalfa at Cambridge, Dorchester County. Light on alfalfa in Calvert and Worcester Counties. (U. Md., Ent. Dept.). VIRGINIA - Populations vary widely in alfalfa fields in Franklin, Pittsylvania, Halifax, Henry and Patrick Counties. (Bishop, Crockett, Woodside). ILLINOIS - Active in southern half of State. (Ill. Ins. Rpt.). ARKANSAS - Increased rapidly to average 400 per 100 sweeps in alfalfa in Conway County. (Ark. Ins. Sur.). OKLAHOMA - Building up most alfalfa and vetch fields in Bryan, Choctaw and McCurtain Counties. Parasites and predators medium to heavy most fields and should substantially decrease populations most instances. (VanCleave, Pela, Goin). Heavy one field in Stillwater area (Bieberdorf), light in Depew area (Stiles) and very light in Burlington area (Owens). KANSAS - Reported on alfalfa in Sumner County. (Gates). TEXAS - Medium on vetch in Delta, Rockwall and Kaufman Counties. Beneficial insects very numerous. (Davis). Averaged 15 per sweep on sweetclover in Karnes County, with no apparent damage. (Hawkins). NEW MEXICO - This season, to date, has been the worst recorded for this pest in many alfalfa fields in Roosevelt, Chaves and Eddy Counties. (N. M. Coop. Rpt.). COLORADO - Counts 3-5 per alfalfa crown in Baca County. None found in Prowers, Bent, Otero, Crowley and Pueblo Counties. (Exp. Sta.). ARIZONA - Continuing very heavy throughout State on alfalfa. (Ariz. Coop. Sur.). UTAH - Present in some alfalfa fields in Utah, Salt Lake and Weber Counties, and damaged same crop in St. George-Hurricane area of Washington County. (Knowlton, Hughes). IDAHO - None found in alfalfa fields in Whitebird area. (Foote, Portman). Very light in alfalfa in Wilder area. (Hart, Bechtolt).

SPOTTED ALFALFA APHID (Therioaphis maculata) - NEW MEXICO - Many untreated fields of nonresistant varieties of alfalfa being destroyed in Roosevelt, Lea and Eddy Counties. Remained high in most southern counties. Medium to heavy on alfalfa in the Villanueva Valley, San Miguel County. (N. M. Coop. Rpt.). ARIZONA - Increasing some alfalfa fields in Maricopa County. One field near Peoria averaged 7.33 aphids per trifoliate leaf. (Ariz. Coop. Sur.). UTAH - Very scarce in Washington County this spring. (Knowlton, Hughes). TEXAS - Very heavy, local infestation in Dallam County. Light to medium in Travis and Wharton Counties. (Texas Coop. Rpt.). OKLAHOMA - Populations increasing most alfalfa fields in Bryan, Choctaw and McCurtain Counties. Most fields light to moderate, few heavy. Predators common in all fields and medium to heavy in many. Many fields near cutting stage. (VanCleave, Pela, Goin). Populations up to 1000 per square foot of crown area in alfalfa field in Tillman County and 600-750 in irrigated fields in Jackson County. (Hatfield). Populations averaged 1,296 per square foot of crown area some Payne County alfalfa fields. Some plants showing extreme damage. (Ketner). Heavy some alfalfa fields in Cheyenne area. Treatments begun. (Hudson). KANSAS - Counts per 25 plants on 18 roadside embankments were up to 31 in Riley County; 47 in Jewell County; 26 in Cloud County; 3 in Geary County;1 in Marion County; 83 in Cowley County and none in Butler County. (Simpson, Burkhardt). COLORADO - Counts 3-5 per alfalfa crown at Carrizo Creek and 0-5 at Stonington in Baca County. None found in Prowers, Bent, Otero, Crowley and Pueblo Counties. (Exp. Sta.). IDAHO - None found in Lewiston area. (Foote, Portman). ILLINOIS - None found in southern half of State. (Ill. Ins. Rpt.). GEORGIA - Light on alfalfa in Johnson, Hancock, Oconee and Franklin Counties. (Johnson). VIRGINIA - Averaged 3 per 10 sweeps in one of 13 fields surveyed in 6 counties. The infested field was in Patrick County. (Crockett, Bishop).

COWPEA APHID (Aphis medicaginis) - NEW MEXICO - Large populations in alfalfa fields heavily infested with pea aphid. Winged forms very abundant. (N. M. Coop. Rpt.).

SPOTTED CUCUMBER BEETLE (Diabrotica undecimpunctata howardi) - DELAWARE - First adult observed on clover, Sussex County. (Burbutis, Conrad). OKLAHOMA - Few adults present in alfalfa and vetch in southeast. (VanCleave, Pela, Goin).

VETCH BRUCHID (Bruchus brachialis) - TEXAS - Adults building up on vetch from overwintering areas in Delta, Kaufman and Rockwall Counties. (Davis).

LYGUS BUGS (Lygus spp.) - PENNSYLVANIA - L. lineolaris very abundant in south central area alfalfa. (Pepper). VIRGINIA - L. lineolaris heavy in 2 Franklin County alfalfa fields. Averaged 35 per 10 sweeps in 2 fields and few present in another field in Patrick County. (Bishop, Crockett). OKLAHOMA - L. lineolaris light but becoming common in alfalfa fields in southeast. (VanCleave, Pela, Goin). TEXAS - Large numbers in alfalfa and vetch in Kaufman, Delta and Rockwall Counties. Could be a problem in seed production. (Davis). UTAH - Present in alfalfa fields generally in Cache, Box Elder, Salt Lake, Weber and Davis Counties. (Knowlton). WYOMING - Small populations, 1 per 5 square feet, found in several alfalfa fields in Big Horn County. (Davison).

MEADOW SPITTLEBUG (Philaenus leucophthalmus) - DELAWARE - Initial field infestation, probably this species, on clover, Sussex County. Young nymphs very common. (Burbutis, Conrad). MARYLAND - First nymphs noted on plantain near Hebron, Wicomico County. (U. Md., Ent. Dept.). VIRGINIA - Damaged about 25 percent of plants in a Pittsylvania County alfalfa field and about 20 percent in a field in Patrick County. (Bishop, Crockett).

SPITTLEBUGS - PENNSYLVANIA - Beginning to hatch in hay in favorable locations in southeastern area. (Menusan). TENNESSEE - Appearing in upper eastern area in legumes. (Mullett).

LEAFHOPPERS - VIRGINIA - Heavy in a Franklin County alfalfa field, present in a Pittsylvania County field, averaged 70 per 10 sweeps in a Halifax County field and 45 in a Henry County field. (Bishop, Crockett).

ARMY CUTWORM (Chorizagrotis auxiliaris) - UTAH - Retarding alfalfa growth in Enterprise area of Washington and Iron Counties. (Knowlton, Hughes). COLORADO - Counts 5-10 per square foot in alfalfa in Larimer and Weld Counties and less than one per square foot in Prowers, Bent, Otero, Baca, Crowley and Pueblo Counties. (Exp. Sta.). WYOMING - Counts less than 1 per 5 square feet in Washakie, Big Horn and Park Counties generally. (Davison). KANSAS - Damaging fall-seeded alfalfa in Osborne County. (Gates).

ALFALFA CATERPILLAR (Colias philodice eurytheme) - ILLINOIS - Adults numerous and larvae occasional in southern half of State. (Ill. Ins. Rpt.).

FRUIT INSECTS

APHIDS - VIRGINIA - Anuraphis roseus medium on apple buds in Hampton City and Prince Edward, Albemarle and Nelson Counties. Eggs hatching over piedmont and eastern areas. (Bobb). MARYLAND - Over 50 percent of eggs hatched on apple trees at Hancock, Washington County. (U. Md., Ent. Dept.). PENNSYLVANIA - Rhopalosiphum fitchii and Anuraphis roseus hatching on apples in the south central area, with the latter species abundant. Myzus cerasi hatching on sweet cherry in the south central area. (Pepper). INDIANA - Heavy on apple buds in the Orleans area. (Marshall). Aphis pomi continues abundant in Vincennes area. (Hamilton). NEW MEXICO - Myzus persicae heavy on peach foliage in Eddy and Chaves Counties and heavy on peach blossoms in Bent, Otero County. (N. M. Coop. Rpt.).

RED-BANDED LEAF ROLLER (*Argyrotaenia velutinana*) - INDIANA - Eggs obvious in apple trees in Vincennes area. (Hamilton). PENNSYLVANIA - Egg-laying commencing in the south central area on apple. (Pepper). MARYLAND - Adults appearing and depositing eggs on apple trees at Hancock, Washington County. (U. Md., Ent. Dept.). DELAWARE - First adult of season found in Sussex County and first egg mass found in Kent County. (MacCreary, Kelsey).

SCALE INSECTS - CALIFORNIA - *Aonidiella aurantii* medium on lemon tree in the Orland district of Tehama County. New County record. *A. citrina* heavy on citrus in Dixon, Solano County. *Epidiaspis piricola* light on pear trees in Cloverdale, Sonoma County. (Cal. Coop. Rpt.). GEORGIA - *Pseudaulacaspis pentagona* infesting scattered trees in a commercial peach orchard at Kathleen. (April 3, Snapp). NEW MEXICO - *Aspidiotus perniciosus* moderate to heavy in many apple orchards in Hondo Valley, Lincoln County. (N. M. Coop. Rpt.). OKLAHOMA - *A. perniciosus* heavy in a few apple trees in a McCurtain County orchard. (Apt.).

CATFACING INSECTS - INDIANA - In an abandoned peach orchard at Vincennes, 4 stink bugs were jarred from 5 trees. (Hamilton). UTAH - *Lygus* spp. common in orchards in Cache, Box Elder, Salt Lake, Weber and Davis Counties. (Knowlton). VIRGINIA - *L. lineolaris* emerging and light in peach orchards in Albemarle County. (Bobb).

EASTERN TENT CATERPILLAR (*Malacosoma americanum*) - OKLAHOMA - Common on native plum in wooded areas of McCurtain County. (VanCleave, Pela, Goin). MARYLAND - Small tents appearing in wild cherry and fruit trees in southern and central sections. (U. Md., Ent. Dept.).

PEAR THRIPS (*Taeniothrips inconsequens*) - UTAH - Active in apricot, peach and cherry orchards in Utah County. (Knowlton).

PLUM CURCULIO (*Conotrachelus nenuphar*) - INDIANA - In an abandoned peach orchard in the Vincennes area, 14 adults were jarred from 5 trees. (Hamilton). VIRGINIA - Emerging and light in peach orchards in Albemarle County. (Bobb). GEORGIA - Continue to leave hibernation in numbers and deposit eggs in peaches. Average of 13 per tree were taken from a commercial peach orchard on an outside row in the Fort Valley area. (Snapp). DELAWARE - First adult found this year on peach tree in Kent County. (MacCreary).

SPIDER MITES - CALIFORNIA - *Panonychus ulmi* light on pear trees in the Newcastle area of Placer County. (Cal. Coop. Rpt.). UTAH - *Eriophyes pyri* extremely numerous in unsprayed pear orchards at Orem, Utah County. (Knowlton).

A WEEVIL (*Brachyrhinus cribricollis*) - CALIFORNIA - Light on olive trees in Woodlake, Tulare County. (Cal. Coop. Rpt.).

TRUCK CROP INSECTS

Beet Leafhopper Conditions in the Southern Great Plains and Adjacent Areas, 1959

In Texas, beet leafhoppers averaged about 5 per 100 square feet in 1959, as compared with 21 per 100 square feet in 1958. The area in Texas covered by the survey was practically all the counties west of the Winter Garden area to El Paso and north through Abilene and the panhandle to Amarillo. Leafhoppers averaged 27.5 per 100 square feet in New Mexico, compared with 35 in 1958 and in southeastern Colorado the average was 12.5 per 100 square feet in 1959. Host plants were in good condition in most areas of west Texas and were found at a high percentage of the stops. Host plants in New Mexico were abundant but scattered, and in Colorado they were very scarce and scattered.

Details of the 1959 Survey: Western Texas - During the period March 2 through March 19, the survey was made in 52 counties of western Texas on wild host plants. A total of 104 stops were made, averaging about 20 miles between stops. The heavy 1958 infestation in the immediate area of El Paso was much reduced. The heaviest concentration of leafhoppers was found in the section between Dryden and Sanderson and again in the Clint-Van Horn-Valentine section. The Dryden-Sanderson area showed an increase over 1958 as did the Imperial, Grandfalls and Bakersfield sections. The main center of the 1959 breeding area is believed to be in the vast area of bladder pod, borage, pepperweed and flixweed found in the triangle represented by Monahans, Clint and Dryden. No beet leafhoppers and very few host plants were found in the Amarillo-Pampa-Perryton area. This area has experienced heavy snows along with temperatures as low as -25° F. during the past winter. Very few green plants were observed. Where sufficient rainfall had been received, hosts were abundant and in good condition. The consistent beet leafhopper finds in the Guthrie-Aspermont-Anson area carries some significance since this area is considered as being the absolute eastern boundary of beet leafhopper.

New Mexico - This portion of the survey took place during the period March 10 through March 16. Stops were made at regular intervals throughout the survey area and weed-host plants were found to be abundant, but scattered. Host plants were present at 90 percent of the stops made. The predominant host plants were pepperweed, flixweed and town mustard. Beet leafhoppers were found at 60 percent of the stops sampled, as compared with 49 percent in 1958. The largest populations were in Eddy, Lea, Roosevelt and Curry Counties in southeastern New Mexico. Beet leafhoppers were also present in Grant, Dona Ana, Otero, Lincoln and Chaves Counties.

Colorado - This portion of the survey took place during the period March 10 through March 16. Host plants were found at 40 percent of the stops made. Predominant plants were flixweed and green tansy. Beet leafhoppers were found at 20 percent of stops sampled. Leafhoppers were present in Otero County in southeastern Colorado. (PPC and Coop. States).

Potato Psyllid Survey on Overwintering Host - 1959

		Average No. per 100 Sweeps		
State	District	1959	1958	1957
Texas	San Angelo	29	217	184
	Big Springs	24	227	516
	Del Rio	86	134	17
	Sanderson-Marathon	130	181	129
	El Paso	42	6	158
New Mexico	Las Cruces (Southern)	54	7	158
Arizona	Phoenix-Tucson (Southern)	992	93	95
California	Blythe-Barstow (Southern)	237	96	143

Note: This table replaces Potato Psyllid Survey on Overwintering Host table in CEIR 9(13):216. Recent information concerning the San Angelo and Del Rio districts has been included. Also, names in parenthesis are 1957 and 1958 designations of same areas.

(PPC and Coop. States)

COLORADO POTATO BEETLE (Leptinotarsa decemlineata) - GEORGIA - Light on tomatoes in Colquitt and Tattnall Counties. (Johnson).

A SPIDER MITE (Tetranychus marianae) - TEXAS - In one tomato field south of Mercedes in lower Rio Grande Valley. (Deer).

FRUITWORMS (Heliothis spp.) - TEXAS - Appearing in many tomato fields in the lower Rio Grande Valley. (Deer).

APHIDS - VIRGINIA - Attacking crucifers and spinach in Accomack and Northampton Counties. Species probably mostly Brevicoryne brassicae on cabbage and Myzus persicae on spinach. (Hofmaster). MARYLAND - B. brassicae infesting asparagus in greenhouse at Dundalk. Det. L. M. Russell. New host record. (U. Md., Ent. Dept.). GEORGIA - B. brassicae light to moderate on cabbage in Colquitt, Grady, Thomas, Brooks and Lowndes Counties. (Johnson). INDIANA - Active on strawberries in the Orleans area. (Marshall). OKLAHOMA - M. persicae heavy on eggplant in a Cotton County greenhouse. (Price). NEW MEXICO - Possibly M. persicae building up on lettuce in Artesia area, Eddy County. (N. M. Coop. Rpt.). ARIZONA - Anuraphis tulipae heavy in some Maricopa County carrot fields. (Ariz. Coop. Sur.). CALIFORNIA - M. persicae medium on Romain lettuce in the Chula Vista area, San Diego County. (Cal. Coop. Rpt.).

IMPORTED CABBAGEWORM (Pieris rapae) - DELAWARE - Adults noted for first time this week. (Burbutis, Conrad).

CABBAGE MAGGOT (Hylemya brassicae) - CALIFORNIA - Light on turnips in the Watsonville area of Santa Cruz County. (Cal. Coop. Rpt.).

LYGUS BUGS (Lygus spp.) - UTAH - Common on mustards in Cache, Box Elder, Salt Lake, Weber and Davis Counties. (Knowlton).

HARLEQUIN BUG (Murgantia histrionica) - TEXAS - Severe damage to turnips, cabbage and radishes in Dimmit, Zavala and Uvalde Counties. Migrations make repeated treatments necessary. (Harding).

SQUASH BUG (Anasa tristis) - UTAH - Active at Sunset and Pleasant Grove. (Knowlton).

STRIPED CUCUMBER BEETLE (Acalymma vittata) - TEXAS - Heavy and damaging squash, melons and cucumbers in Dimmit County. (Harding).

CUTWORMS - TEXAS - Prodenia ornithogalli, Agrotis ypsilon, Peridroma margaritosa and A. malefida attacking tomato, pepper and corn seedlings and transplants in Dimmit County. Lighter than last year. (Harding).

MEXICAN BEAN BEETLE (Epilachna varivestis) - GEORGIA - Light on beans in Colquitt, Mitchell, Grady, Thomas, Brooks and Tattnall Counties. (Johnson).

BEAN LEAF BEETLE (Cerotoma trifurcata) - GEORGIA - Light on beans in Colquitt, Mitchell, Grady, Thomas, Brooks and Tattnall Counties. (Johnson).

CELERY LEAF TIER (Udea rubigalis) - ARIZONA - Not commonly reported in Arizona. On sweetpotato foliage last fall and reappeared in light numbers on sugar beets this spring. (Ariz. Coop. Sur.).

A SPITTLEBUG - TENNESSEE - Appearing in strawberries in upper eastern area of State. (Mullett).

ROSE SCALE (Aulacaspis rosae) - CALIFORNIA - Heavy on blackberry in Hollister, San Benito County. (Cal. Coop. Rpt.).

TOBACCO INSECTS

TOBACCO HORNWORM (*Protoparce sexta*) - FLORIDA - First moth for season reported from blacklight trap at Gainesville, Alachua County. (March 30, Perry).

TOBACCO FLEA BEETLE (*Epitrix hirtipennis*) - GEORGIA - Light on tobacco in the field in Bulloch County, and moderate to heavy in Tift, Colquitt, Mitchell, Grady, Thomas, Brooks, Lowndes, Ware, Pierce, Wayne and Tattnall Counties. (Johnson).

COTTON INSECTS

Cotton Situation, Lower Rio Grande Valley, Texas:

CUTWORMS and DARKLING BEETLES still causing some damage in eastern Willacy and Cameron Counties. FLEAHOPPERS now appearing in western half of Hidalgo County and SPIDER MITES are found in small numbers in scattered fields over the valley. APHIDS increased over last week. (Deer, April 6).

THRIPS - GEORGIA - *Frankliniella* sp. light on cotton in Bulloch County. (Johnson).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

AN ARCTIID (*Halisidota argentata*) - CALIFORNIA - Defoliation and partial defoliation of Douglas-fir trees continuing in Lake Pillsbury, Mill Creek and Santa Rosa areas in Mendocino National Forest. (Spharler).

A PINK TIP MOTH - ARKANSAS - Adult emergence began about March 1 in southern areas and March 20 in northern parts of the State. Weather conditions have not favored oviposition and evidence of breeding activity has not been observed. (Ark. For. Pest. Rpt., Mar. Rpt.).

BARK BEETLES - ARKANSAS - Some increase in activity of *Ips* spp. and *Dendroctonus terebrans* noted in areas near Paris, Ozark and Fordyce. Remained static elsewhere. (Ark. For. Pest Rpt., Mar. Rpt.).

DOUGLAS-FIR ENGRAVER (*Scolytus unispinosus*) - CALIFORNIA - Causing complete kill and top fading in timber areas over Sonoma County. Condition increasing at present time. (Spharler).

A PINE PITCH MIDGE - ARKANSAS - Heavier than usual infestations observed in Union County on a 4-year-old planting. Damage not serious. (Ark. For. Pest. Rpt., Mar. Rpt.).

PINE NEEDLE SCALE (*Phenacaspis pinifoliae*) - UTAH - Moderate to severe on Engelmann spruce at Logan. (Knowlton). KANSAS - Reported on spruce trees in Rawlins County. (Peters).

PINE BARK APHID (*Pineus strobi*) - WISCONSIN - Damaged white pine reproduction in Green County. Tops of small trees dying as result of suppression and this species. (Wis. Coop. Sur.).

TENT CATERPILLARS (*Malacosoma* spp.) - DELAWARE - Most eggs of *M. americanum* on wild cherry have hatched throughout the State. (Burbutis, Conrad). MARYLAND - Small tents appearing on wild cherry and fruit trees in southern and central sections. (U. Md., Ent. Dept.). VIRGINIA - Very small nests of *M. americanum* present in a tree in Montgomery County. (Amos). ILLINOIS - *M. americanum* hatching as far north as Effingham. Small nests appear more abundant than usual. (Ill. Ins. Rpt.). UTAH - Hatching in Box Elder County. Eggs numerous on shade trees in Weber, Davis, Cache and Salt Lake Counties. Indications are that they may be as numerous as in 1958. (Knowlton).

BAGWORM (Thyridopteryx ephemeraeformis) - VIRGINIA - Very heavy on cedar trees in parts of Spotsylvania County. (Kash).

NATIVE HOLLY LEAF MINER (Phytomyza ilicicola) - MARYLAND - Pupation about complete in central counties, on American holly. (U. Md., Ent. Dept.).

APHIDS - NEW MEXICO - Macrosiphum rosae becoming very heavy on roses in all but cooler northern counties. Cinara tujafilina moderate to very heavy on arborvitae in all southern counties. Periphyllus negundinis heavy on boxelder trees at Carlsbad, Eddy County. (N. M. Coop. Rpt.). CALIFORNIA - Light infestations building up on roses in Orland, Glenn County, and in Sacramento, Sacramento County. Vesiculaphis carisis light on azalea plants in Altaville, Calaveras County. This is possibly a new State record. (Cal. Coop. Rpt.). ARIZONA - M. rosae increased on Graham County roses and caused deformity of buds in some cases. (Ariz. Coop. Sur.).

A THRIPS - ARIZONA - Increasing infestations in some commerical rose plantings in Pinal County requiring control measures. (Ariz. Coop. Sur.).

SAN JOSE SCALE (Aspidiotus perniciosus) - CALIFORNIA - Heavy on laurel trees in Benicia, Solano County. (Cal. Coop. Rpt.).

A GRASSHOPPER (Melanoplus sp., probably marginatus) - CALIFORNIA - Heavy populations on native shrubs in the Mendota area of Fresno County and the Avenal area of Kings County. (Cal. Coop. Rpt.).

ELM LEAF BEETLE (Galerucella xanthomelaena) - UTAH - Emerged in the Salt Lake-Holladay area. Survival high in the Salt Lake City area. (Knowlton). OKLAHOMA - Leaving hibernating quarters in large numbers in Stillwater area. Adults commonly observed flying on warm days. (Bieberdorf, VanCleave). Active and causing concern in Oklahoma City. (Bower).

INSECTS AFFECTING MAN AND ANIMALS

MOSQUITOES - UTAH - Conspicuously annoying at Smithfield and Logan, Cache County, and reported from Corinne and Bear River City, Box Elder County. Controls being applied in several districts. (Knowlton). NORTH CAROLINA - Many fourth-instar larvae and pupae of Aedes canadensis in Umstead State Park, Wake County. A. sollicitans adults biting at 4-5 per minute and pockets of larvae found in Carteret County. (Ashton). CALIFORNIA - Culex tarsalis populations higher in agricultural areas of central part of State than elsewhere. (Vector Control).

COMMON CATTLE GRUB (Hypoderma lineatum) - NEW MEXICO - Adults pestering cattle over most of the State. (N. M. Coop. Rpt.). COLORADO - Averaged 3.7-18 per animal in 189 animals examined in 9 counties. (Ext. Ser.).

TICKS - OKLAHOMA - Amblyomma americanum heavy on native cattle in southeastern part of State. (Goin). SOUTH DAKOTA - Dermacentor variabilis adults active in northeast area. (Mast).

STORED-PRODUCT INSECTS

INDIAN-MEAL MOTH (Plodia interpunctella) - NORTH DAKOTA - Infestation reported from a home in Fargo. (N. D. Ins. Rpt.).

FLAT GRAIN BEETLE (Laemophloeus pusillus) - TEXAS - Medium to heavy in milo in Tom Green and Cochran Counties. (Texas Coop. Rpt.).

BENEFICIAL INSECTS

PARASITES AND PREDATORS - NEW MEXICO - Coccinellid larvae and adults very abundant in fields heavily infested with pea aphid and spotted alfalfa aphid. (N. M. Coop. Rpt.). VIRGINIA - Nabids, lady beetles and syrphids becoming active in alfalfa fields in several counties. (Bishop, Crockett). OKLAHOMA - Hymenopterous species heavy in a barley field near Holdenville, where 50 percent of a heavy aphid population had been "mummified." Common in fields of small grain and alfalfa. Averaged one per sweep in most alfalfa fields checked in southeastern area. (VanCleave, Pela, Goin). Less than 10 percent of aphid population "mummified" in 2 small grain fields checked in northern Payne County. (Stiles). Predator populations increased and are common in small grain and alfalfa fields throughout southeastern part of State. Populations appear heavy enough to substantially reduce existing aphid numbers. (VanCleave, Pela, Goin). Coccinellids averaged 2 adults and 4 larvae and Chrysopa sp. 2 adults per square yard in some alfalfa fields checked in Payne County. (Ketner). IDAHO - Chrysopa spp. adults active in alfalfa fields in Wilder area, but populations quite low. (Hart, Bechtolt). Adult coccinellids active and common in Lewiston, Whitebird and Moscow areas. (Foote, Portman, Manis). Adult populations light in Wilder area. (Hart, Bechtolt). ARIZONA - H. convergens becoming very abundant in alfalfa and barley statewide, with up to 50 adults and 110 larvae per 10 sweeps in a Graham County alfalfa field. (Ariz. Coop. Sur.). KANSAS - Chrysopa sp. adults as high as 6 and Nabis sp. adults as high as 4 per 10 sweeps in 2 wheat fields in Labette County. (Peters).

HONEY BEE (Apis mellifera) - WISCONSIN - Late honey flow during 1958 which was detrimental to brood rearing, plus winter conditions which prevented cleansing flights, contributed to an estimated 50 percent loss of this species. This estimated winter mortality is 45 percent higher than a year ago and about 25 percent greater than normal. As a result, shipments of package bees into the State are expected to be large. (Wis. Coop. Sur.).

A CARPENTER BEE - NORTH CAROLINA - Large numbers pollinating blueberries and other shrubs in eastern areas of State. (Jones, Stephen).

MISCELLANEOUS INSECTS

COCKROACHES - MARYLAND - Supella supellectilium heavy in a home in Baltimore. (U. Md., Ent. Dept.). NEW MEXICO - Blatta orientalis a problem in many buildings at Lovington, Lea County. (N. M. Coop. Rpt.). UTAH - B. orientalis present in homes at Provo and Pleasant Grove and numerous in a home at Murray. (Knowlton). SOUTH DAKOTA - S. supellectilium reported from a home in Grant County. (Mast).

IMPORTED FIRE ANT (Solenopsis saevissima richteri) - OKLAHOMA - Survey of 320 acres of nursery land at Durant and limited check of roadsides and pastures in Bryan, Choctaw, McCurtain, Pushmataha and Atoka Counties gave negative results. (Pela, VanCleave, Goin).

TERMITES - MARYLAND - Winged forms of Reticulitermes flavipes noted in and around homes in Anne Arundel and Prince Georges Counties and at Baltimore. (U. Md., Ent. Dept.). GEORGIA - Numerous reports of R. flavipes throughout the State. (Snapp, Johnson). UTAH - Infesting homes at Pleasant Grove, Provo and Logan. (Knowlton). NORTH CAROLINA - Flights observed in a home and a commercial building in Wake and Johnston Counties. (Jones, Farrier). IDAHO - Winged and apterous forms of *R. hesperus* found in basement of a home in Twin Falls. (Gibson).

MAY BEETLES (*Phyllophaga* spp.) - OKLAHOMA - Adults emerging and attracted to lights in increasing numbers in southeastern part of State. First adults observed in late March. (Pela, Goin, VanCleave).

A FUNGUS GNAT (*Sciara* sp.) - ILLINOIS - Very abundant in many parts of the State and has caused much concern as it has been mistaken for hessian fly. As many as 50 per linear foot reported from wheat fields, but survey showed a range of 0-10 with average of 4 per linear foot. Up to 50 per foot observed close to a pile of soybean trash in one field. (Ill. Ins. Rpt.).

CORRECTIONS

CEIR 9(2):12 - SUMMARY OF INSECT CONDITIONS - 1958 - COLORADO - Under silage corn insects, unit value should read $10, and total value should read $20,094,040.

CEIR 9(15):255 - GRASSHOPPERS - WISCONSIN - Cortophaga viridifasciatus should read Chortophaga viridifasciatus and Epitettix simplex should read Eritettix simplex.

CEIR 9(15):257 - GREEN JUNE BEETLE should read (Cotinis nitida).

CEIR 9(15):267 - Under Forest, Ornamental and Shade Tree Insects, MOUNTAIN PINE BEETLE should read (Dendroctonus monticolae).

ADDITIONAL NOTES

ALABAMA - SOUTHERN CORN ROOTWORM adults plentiful on crimson clover, vetch and oats in central and southern areas. *Hypera meles* numerous on crimson clover in Lee County, with limited numbers on clover and vetch in southeastern section and moderate numbers in central section. PEA APHID extremely heavy on vetch and crimson clover throughout central and southern parts of the State. Light infestation of VETCH BRUCHID on vetch in Lee County. GREEN CLOVERWORM moderate on vetch and clover in Lee, Henry and Houston Counties. Limited numbers of THREE-CORNERED ALFALFA HOPPER observed on alfalfa in Lee and Houston Counties and of FULLER ROSE BEETLE on crimson clover in Lee County. GREENBUG averaged 10-15 per 10 sweeps of oats in Henry County. TARNISHED PLANT BUG heavy on crimson clover and alfalfa in Henry and Houston Counties. Limited numbers of SPOTTED ALFALFA APHID taken on alfalfa in Houston County for a new county record. Limited numbers of BROWN STINK BUG and SOUTHERN GREEN STINK BUG collected from clover and alfalfa in Houston and Lee Counties. CABBAGE APHID on cabbage and COLORADO POTATO BEETLE on potatoes both moderate in Lee County. Few HARLEQUIN BUG adults observed in garden plots in same county. HORN FLY heavy on cattle in Lee County. Large numbers of BIG-EYED BUGS observed in crimson clover, oats and rye in Houston, Henry and Lee Counties. Few GOLDEN-EYE LACEWING adults observed in crimson clover in Lee and Houston Counties. Three species of COCCINELLIDS continue to increase in numbers in central and southern parts of the State. (Grimes, Hays, Guyton, Ruffin).

SOUTH DAKOTA - Survey of two southeast counties indicates approximately 30 percent average mortality of overwintering EUROPEAN CORN BORER population. FALSE WIREWORMS averaged less than one per linear foot in winter wheat in south central area. (Mast).

WEST VIRGINIA - Large RED-BANDED LEAF ROLLER flight noted April 10 at Kearneysville. APHIDS on apple buds fewer than usual and EUROPEAN RED MITE hatching slowly on apple in Berkeley County. EASTERN TENT CATERPILLAR hatching, numerous on northern area wild cherry. MEADOW SPITTLEBUG eggs hatching on alfalfa. CATTLE GRUBS average 10.3 in untreated animals generally. (W. Va. Ins. Sur.).

LIGHT TRAP COLLECTIONS

	Pseud. unip.	Agrot. yps.	Prod. ornith.	Perid. marg.	Feltia subt.	Protop. sexta	Helia zea
ALABAMA							
Auburn 4/10	7	1		1			
ARIZONA							
Mesa 4/1-7			2	9			60
FLORIDA							
Gainesville 3/30		1			34	1	
Monticello 4/7							1
Quincy 4/6		4	1		4		1
ARKANSAS							
Fayetteville 3/19-4/1	27	20		13			2
Kelso 3/19-4/1	3	4		7			3
Morrilton 3/19-4/1	29	54		20			
KANSAS							
Hays 4/5		3					
Manhattan 4/4-9	1			1			
LOUISIANA							
Baton Rouge 4/3-9	27	22	3	15	10		14
Franklin 4/2-9	10	6	16	2	5		7
MISSISSIPPI							
*Stoneville 4/4-10	549	41	1	186			8
NEBRASKA							
North Platte 3/22-4/2		1					
SOUTH CAROLINA							
Charleston 4/6-12	25	14	1	2	4		1
Clemson 4/4-10	14	5	13	7			
TENNESSEE (Counties)							
Blount 3/31-4/6	19	7	2	9			
Cumberland 3/31-4/6	9	2		6			
Greene 3/31-4/6	4	1	1	1			
Madison 3/31-4/6	26	5		13			3
Maury 3/31-4/6	103	6	2	15			
Monroe 3/31-4/6	74	5	3	17			
Robertson 3/31-4/6	22	1	2	6			
TEXAS							
Waco 4/4-10	68	4		67	35		28

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* Four traps - Stoneville

SUMMARY OF INSECT CONDITIONS - 1958

ALABAMA

Prepared by Walter Grimes*

Highlights: Insect infestations that occurred throughout 1958 after the extreme weather conditions that prevailed during the early part of the year were interesting to observe. BOLLWORMS were of concern much earlier than usual and infestations remained above normal throughout the year in most areas. BOLL WEEVIL was not present in damaging numbers until late July and early August in most areas; however, it still caused enough damage to be the number one pest in the State. EUROPEAN CORN BORER damage to corn was greater than in 1957 and the southward movement continued into 11 additional counties. CORN EARWORM and FALL ARMYWORM caused serious damage to early and late corn. LESSER CLOVER LEAF WEEVIL and Hypera meles caused considerable reduction in seed yields of crimson and burclover. Infestations of SCREW-WORM occurred in early September but were limited to three counties. SPIDER MITES caused serious damage to cotton in the Tennessee Valley and Sand Mountain areas.

Cereal and Forage Insects: CLOVER LEAF WEEVIL (Hypera punctata), a CLOVER WEEVIL (H. meles) and LESSER CLOVER LEAF WEEVIL (H. nigrirostris) were particularly destructive to crimson and white Dutch clovers and burclover during early spring. Damage was observed as early as mid-April and heavy populations remained in some areas until mid-June. Seed production was decreased an estimated 25-40 percent. PEA APHID (Macrosiphum pisi) appeared in limited numbers on vetch and clover during early April and became damaging during May and June. VEGETABLE WEEVIL (Listroderes costirostris obliquus) larvae caused light damage to burclover in early April in Lee and Macon Counties. GREENBUG (Toxoptera graminum) caused moderate damage to oats, wheat and vetch in central areas in early April. Infestations in most fields remained 10-20 per 10 sweeps throughout the early spring. YELLOW-STRIPED ARMYWORM (Prodenia ornithogalli) caused light damage to crimson clover and oats in Lee and Baldwin Counties in early May. Although sporadic infestations were observed on various crops throughout the summer, estimated damage was below that of 1957. A FALSE CHINCH BUG (Nysius sp.) caused light damage to vetch and burclover in Lee County in early May. Moderate damage to vetch by VETCH BRUCHID (Bruchus brachialis) occurred in central Alabama in late April and May. Various PLANT BUGS, predominately Lygus lineolaris, caused light damage to clover, vetch and other crops. STRIPED BLISTER BEETLE (Epicauta sp.) caused considerable damage to alfalfa and pasture crops throughout the State. Infestations were more prominent during July and August.

FALL ARMYWORM (Laphygma frugiperda) caused considerable damage to corn throughout 1958. Damage was first noted in southern areas in early May and increased steadily until mid-June. In some areas, damage to corn was serious. Serious reduction to total corn harvested occurred in some Shelby County fields due to ear-drop. SUGARCANE BEETLE (Euetheola rugiceps) reduced stands of early corn in central and southern sections. Replanting was necessary in several areas. CORN EARWORM (Heliothis zea) caused considerable damage to sweet and field corn statewide and moderate damage to clover, vetch and alfalfa in several areas. Overwintering EUROPEAN CORN BORER (Pyrausta nubilalis) larvae pupated on Sand Mountain in late April. By May 18, all had pupated and by June 1, emergence was 90 percent. Yield reduction of corn was estimated at 15.20 percent in several northern counties. The southward spread continued into 11 additional counties. Fall abundance surveys revealed only 75 borers per 100 stalks went into hibernation, compared with 141 in 1957; however, the 1958 survey included a much larger and more recently infested area than the 1957 survey. SOUTHERN CORNSTALK BORER (Diatraea crambidoides) and STALK BORER (Papaipema nebris) caused light damage to corn in northern areas during June and July. SOUTHERN GREEN STINK BUG (Nezara viridula) and BROWN STINK BUG (Euschistus servus) caused light to moderate damage to corn in southern areas during the summer. These species also caused light damage to soybeans in Baldwin, Mobile and Escambia Counties during the same period. SORGHUM WEBWORM (Celama sorghiella) was not as abundant as in 1957, but infestations on grain sorghum occurred locally. LEAF-FOOTED BUG (Leptoglossus phyllopus) was heavy on grain sorghum in early September in the central area and lighter infestations were sporadic throughout the summer. VELVETBEAN CATERPILLAR (Anticarsia gemmatalis) caused light to moderate damage to peanuts and soybeans in southeast and extreme southern sections; however, damage did not exceed that of 1957. MEXICAN BEAN BEETLE (Epilachna varivestis) appeared on soybeans late in the season and caused light damage. GREEN CLOVERWORM (Plathypena scabra) caused moderate damage to clover in central areas during June and July and damaged alfalfa in some areas. THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) caused moderate damage to alfalfa throughout central sections. SPOTTED ALFALFA APHID (Therioaphis maculata) infestations were much lower in most areas than in previous years.

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* From data submitted by members of the Entomology Staff of Alabama Polytechnic Institute, Plant Pest Control Division, field workers of the State Department of Agriculture, county agricultural workers and others.

SOYBEAN CYST NEMATODE (Heterodera glycines) surveys in the State during 1958 were negative. Since July 1, 1958, soil samples were taken from properties representing 6,774 acres and visual surveys were made on properties representing some 23,778 acres mostly in the southwestern commercial soybean areas. CORN LEAF APHID (Rhopalosiphum maidis) infestations increased in most areas, but little damage resulted. Peanuts in southeastern sections were severely damaged early in the season by TOBACCO THRIPS (Frankliniella fusca). Several species of GRASSHOPPERS (Schistocerca americana, Melanoplus differentialis, M. femur-rubrum) caused considerable damage to corn, legumes and pasture crops throughout the summer. M. femur-rubrum was the predominant species. There is a definite increase of grasshopper activity in the State in the last few years. WHITE-FRINGED BEETLES (Graphognathus spp.) - Since July 1, a total of 13,515 acres of new infestations were found; however, none were isolated infestations. In the State there is a total of 261,628 acres now infested, 119,863 of which are farmland. All active nursery acreage has been treated.

Fruit Insects: PECAN NUT CASEBEARER (Acrobasis caryae) caused serious reduction in pecan yield in central Alabama, with 40-50 percent of the total crop destroyed during the major fruiting period. PECAN LEAF CASEBEARER (Acrobasis juglandis) caused considerable damage to pecan foliage in Baldwin County as early as April. Lighter infestations occurred in Escambia and Covington Counties in May. HICKORY SHUCKWORM (Laspeyresia caryana) occurred in large numbers in old pecan shucks during April. Heavy infestations occurred again in late December. APHIDS caused light damage to pecan foliage during May and June. BLACK PECAN APHID (Melanocallis caryaefoliae) caused light damage in August and September in most sections. FALL WEBWORM (Hyphantria cunea) caused heavy damage to pecan trees throughout summer months and was heavier than in previous years. Larvae of a MAY BEETLE (Phyllophaga sp.) defoliated small pecan trees in some areas in May and June. PEACH TREE BORER (Sanninoidea exitiosa) caused heavy damage in peach orchards during March and April. Light infestations occurred in southern areas in November and December. Damage by LESSER PEACH TREE BORER (Synanthedon pictipes) was light to moderate. Light damage to plums by PLUM CURCULIO (Conotrachelus nenuphar) occurred in localized central areas. APPLE APHID (Aphis pomi), WOOLLY APPLE APHID (Eriosoma lanigerum) and GRAPEVINE APHID (Aphis illinoisensis) caused light damage during May in several south and central counties. SAN JOSE SCALE (Aspidiotus perniciosus) caused moderate damage to Lee County apple trees during May. WHITE PEACH SCALE (Pseudaulacaspis pentagona) caused severe damage to peach trees in southern areas in September and October. Lighter infestations were observed in other areas. GRAPE ROOTWORM (Fidia viticida) activity was reported in one area and GRAPE FLEA BEETLE (Altica chalybea) caused only light damage. ORIENTAL FRUIT MOTH (Grapholitha molesta) damage to peach trees was light to moderate statewide. MEDITERRANEAN FRUIT FLY (*Ceratitis capitata*) traps were operated in Baldwin and Mobile Counties in the vicinity of fruit markets. No positive collections were made.

Truck Crop Insects: VEGETABLE WEEVIL (*Listroderes costirostris obliquus*) caused moderate to heavy damage to turnips during April and May, being completely destroyed in some areas. TURNIP APHID (*Rhopalosiphum pseudobrassicae*) completely destroyed turnips locally in Baldwin County in May. Heavy infestations of *R. pseudobrassicae* and POPLAR PETIOLE GALL APHID (*Pemphigus populi-transversus*) seriously damaged turnips in central and southern areas during September, October and November. CABBAGE APHID (*Brevicoryne brassicae*) appeared on cabbage in early April and increased to moderate and heavy infestations during May and June on untreated plants. BEAN LEAF BEETLE (*Cerotoma trifurcata*) was heavy on beans in April and May in Lee and Russell Counties and moderate throughout the central area in late June and July. MEXICAN BEAN BEETLE (*Epilachna varivestis*) inflicted moderate damage to beans in Baldwin County in May. Infestations were generally not as high as in 1957, but in some localized areas almost complete destruction of beans occurred. SPOTTED CUCUMBER BEETLE (*Diabrotica undecimpunctata howardi*) caused moderate damage to beans and cucumbers in May and in October in southern areas. TARNISHED PLANT BUG (*Lygus lineolaris*) slightly damaged squash in southern and central areas throughout the summer. During May and June,IMPORTED CABBAGEWORM (*Pieris rapae*) severely damaged cabbage in Baldwin and Escambia Counties and STRIPED CUCUMBER BEETLE (*Acalymma vittata*) caused moderate damage to squash and watermelon plants in Chilton and Fayette Counties. IMBRICATED SNOUT BEETLE (*Epicaerus imbricatus*) caused severe damage to tomatoes in Blount County in April and May and ASPARAGUS BEETLE (*Crioceris asparagi*) moderately damaged asparagus in Lee County in early May. CABBAGE LOOPER (*Trichoplusia ni*) and DIAMONDBACK MOTH (*Plutella maculipennis*) appeared in large numbers in Lee County during May, the latter species was the heaviest in 10 years in this area. HARLEQUIN BUG (*Murgantia histrionica*)caused light damage in central Alabama throughout the summer. Heavy infestations of COLORADO POTATO BEETLE (*Leptinotarsa decemlineata*) were present throughout the State by mid-May. Complete defoliation of potatoes occurred in some areas. ONION THRIPS (*Thrips tabaci*) lightly damaged onions in many areas. Various species of CUTWORMS caused considerable damage to different crops during the year. FALL ARMYWORM (*Laphygma frugiperda*) was destructive to garden crops and TOMATO FRUITWORM (*Heliothis zea*) caused serious damage to tomatoes in all sections. Damage was reported from Houston County by late May. PICKLEWORM (*Diaphania nitidalis*) and MELONWORM (*D. hyalinata*) caused light damage late in the season in localized southern areas. STRAWBERRY WEEVIL (*Anthonomus signatus*) caused moderate to heavy damage to blackberries in Chilton and Tuscaloosa Counties in late April and May. SWEETPOTATO WEEVIL (*Cylas formicarius elegantulus*) infestations in domestic sweetpotato plantings totaled 55 as of December 31 in Covington, Baldwin, Escambia, Geneva, Houston and Mobile Counties.

Forest, Ornamental and Shade Tree Insects: SOUTHERN PINE BEETLE (*Dendroctonus frontalis*), BLACK TURPENTINE BEETLE (*D. terebrans*) and IPS BEETLES (*Ips*. spp.) were active in pine stands during 1958; however, populations were comparatively lower and damage was less than in 1957. This may have been, in part, the result of the extreme cold weather of February, 1957, which killed much of the overwintering brood. Moderate to heavy infestations of NANTUCKET PINE MOTH (*Rhyacionia frustrana*) occurred in young loblolly and shortleaf pine plantations throughout the State. PINE REPRODUCTION WEEVILS (*Pachylobius picivorus* and *Hylobius pales*) caused some loss of seedlings in newly established plantations planted too soon after cutting operations. PINE WEBWORM (*Tetralopha robustella*) infestations were heavier in one and two-year-old pines than in 1956 and 1957. Damage was not severe, but infestations ranged up to an estimated 20 percent in some plantations. In seedling nurseries, insect damage was generally light. A heavy infestation of a SPIDER MITE (*Oligonychus milleri*) damaged pine seedlings in the nursery at Auburn during November. Larger infestations of SCALE INSECTS (*Toumeyella* spp.) were observed in one to four-year-old pines than in 1956-57. Scattered infestations of RED-HEADED PINE SAWFLY (*Neodiprion lecontei*) occurred in southwest Alabama in late December and damaged young pines in Washington County in July. DEODAR WEEVIL (*Pissodes nemorensis*) was fairly common on pine timbers in Lee and surrounding counties during early spring. Infestations were somewhat higher than in 1957. A PINE PITCH MIDGE (*Retinodiplosis* sp.) was observed on pines in Lee County early in the year; up to 35 insects per functioning gall. PINE NEEDLE SCALE (*Phenacaspis pinifoliae*) and a PINE PITCH MIDGE (*Retinodiplosis resinicola*) were common on pines in late April and early May in south central areas.

Moderate infestations of FOREST TENT CATERPILLAR (*Malacosoma disstria*) occurred in swamp-hardwood areas of Mobile, Washington, Choctaw and Baldwin Counties in early April and May. EASTERN TENT CATERPILLAR (*M. americanum*) occurred on wild cherry as early as April and continued to defoliate trees for some time. More defoliation resulted from attacks of FALL WEBWORM (*Hyphantria cunea*) in 1958 than in 1956 and 1957. Infestations were noted as early as June 10. PHYCITIDS (*Dioryctria abietella* and *D. amatella*) damaged up to 30 percent of the cones on slash, longleaf and loblolly pines in some areas. ELM LEAF BEETLE (*Galerucella xanthomelaena*) caused severe damage to American elm in all sections, being especially heavy in north and central sections with almost complete defoliation of medium-sized and smaller trees. LOCUST TWIG BORER (*Ecdytolopha insiticiana*) and LOCUST LEAF MINER (*Chalepus dorsalis*) caused light to moderate damage to young locust in central areas early in the year. An OAK SCALE (*Lecanium quercifex*) and a KERMES SCALE (*Kermes galliformis*) were present in rather large numbers on young oak twigs in central and southeastern areas in early spring. *Kermes* infestations were scarce during late summer. CAMELLIA SCALE (*Lepidosaphes camelliae*)and TEA SCALE (*Fiorinia theae*) were rather light on camellias early in the year; however, tea scale increased considerably during late summer and early fall. COTTONY-CUSHION SCALE (*Icerya purchasi*) damage to ornamentals was generally light in southern areas the latter half of 1958. A WAX SCALE (*Ceroplastes ceriferus*) was prevalent in early spring but rather scarce during the summer. Infestations were generally equal to those of 1957. SPIREA APHID (*Aphis spiraecola*) was unusually heavy throughout the State early in the year. ROSE APHID (*Macrosiphum rosae*) caused considerable damage to several species of roses in early spring and summer. A GALL MIDGE (*Itonida ocellaris*) caused light to moderate damage to red maple during April, but was rather scarce during the summer. AZALEA LACE BUG (*Stephanitis pyrioides*) caused moderate to heavy damage to azaleas in the southern part of the State. An AZALEA CATERPILLAR (*Datana major*) caused moderate damage to azaleas in localized southern areas. Various species of CUTWORMS (principally *Peridroma margaritosa*) caused moderate damage to ornamental plants throughout the year. JAPANESE BEETLE (*Popillia japonica*) traps were placed at approximately 100 scattered locations over the State at points of likely introduction. No specimens were collected during 1958.

Cotton Insects: Generally, cotton insects were not as abundant as in 1957. BOLLWORMS (*Heliothis* spp., et al.) appeared in unusually large numbers early and infestations remained above normal throughout the season and were responsible for yield reductions in many areas. PINK BOLLWORM (*Pectinophora gossypiella*) inspections were made in all except 4 counties in the State. All inspections were negative. BOLL WEEVIL (*Anthonomus grandis*) began emerging from hibernation during mid-May in central Alabama; however, infestations generally were low until late July and early August in most areas. In localized areas where insecticides were not applied properly, yield was reduced considerably. SPIDER MITES (*Tetranychus* spp.) caused severe damage to cotton in the Tennessee River Valley and Sand Mountain areas. Damage was also observed in localized central areas. CABBAGE LOOPER (*Trichoplusia ni*) caused minor damage in central areas during July and August. COTTON APHID (*Aphis gossypii*) was general throughout the State, but not as abundant as in 1957. A WEBWORM caused light damage in localized central areas. THRIPS caused moderate damage to seedling cotton in most areas throughout the early season and WHITEFLIES were present in most northern fields during July and August. COTTON LEAFWORM (Alabama argillacea) infestations were prevalent in Escambia and Monroe Counties in late September. Infestations appeared in south central portion of the State in early October. Little damage, except perhaps a small amount of staining, resulted from the attacks. BLACK CUTWORM (Agrotis ypsilon) caused moderate damage to seedling cotton in northern areas during June. SALT-MARSH CATERPILLAR (Estigmene acrea) appeared in localized areas, but caused no apparent damage. FALL WEBWORM (Hyphantria cunea) occurred in Limestone County in July, but caused no apparent damage. This is the first record of this species attacking cotton in Alabama. WHITE-FRINGED BEETLES (Graphognathus spp.) caused light to moderate damage in Monroe County early in the season, destroying seedling plants. COTTON FLEAHOPPER (Psallus seriatus) caused very little damage but TARNISHED PLANT BUG (Lygus lineolaris) was destructive in localized areas.

Livestock Insects: CATTLE BITING LOUSE (Bovicola bovis) was prevalent early in 1958 and infestations appeared again in late fall and early winter. In central sections, infestations were heavier than in 1957. HORN FLY (Siphona irritans) populations were extremely high early in the summer in most areas. DEER FLIES (Chrysops spp.) were also heavy in localized central and northern areas early in the year. HORSE FLIES (Tabanus spp.) were present in unusual numbers in June and July on cattle in central Alabama. COMMON CATTLE GRUB (Hypoderma lineatum) damage was somewhat higher in most areas late in the season than in 1957. SCREW-WORM (Callitroga hominivorax) infestations were confined to Elmore, Autauga and Montgomery Counties. The first positive case was found September 6 and only 96 cases were found throughout the year. Under the eradication program, 2,441 animals were sprayed in the infested area and 66,964,250 sterile male flies were dropped in the eradication campaign.

Stored-grain Insects: Stored-grain insects were of utmost importance throughout most of 1958. Infestations of RICE WEEVIL (Sitophilus oryza) were noted in many fields of early maturing corn in several areas. These infestations were moved from the field to storage areas and consequently heavy damage for 1958-59 was predicted. Heavy damage to corn was observed in December in the southeast and extreme south. ANGOUMOIS GRAIN MOTH (Sitotroga cerealella) damage was severe during March and April in grain stored over winter, but infestations were low during December in grain stored in the early fall. Heavy infestations of CIGARETTE BEETLE (Lasioderma serricorne) occurred in grain in warehouses in Mobile County in October and again in December. Stored-grain pests of lesser importance were MEALWORMS (Tenebrio obscurus and T. molitor), CADELLE (Tenebroides mauritanicus), SQUARE-NECKED GRAIN BEETLE (Cathartus quadricollis), INDIAN-MEAL MOTH (Plodia interpunctella), CARPET BEETLES (Attagenus piceus and Anthrenus scrophulariae) and SAW-TOOTHED GRAIN BEETLE (Oryzaephilus surinamensis). KHAPRA BEETLE (Trogoderma granarium) surveys during 1958 were negative.

Miscellaneous Insects: CASEMAKING CLOTHES MOTH (Tinea pellionella) was more prevalent locally than previously reported. EASTERN LUBBER GRASSHOPPER (Romalea microptera) occurred in the central area in June and infestations increased noticeably in localized areas in July and August. MINING BEES were present in several areas and were annoying in some places. SNAILS caused moderate damage to lilies in Baldwin County in May and were fairly common throughout the State. OLD-HOUSE BORER was collected in Auburn for the first time in several years. All IMPORTED FIRE ANT (Solenopsis saevissima richteri) infestations in Limestone, Morgan, Etowah, Walker, Lamar, Blount, St. Clair, Talladega, Clay, Pike and Calhoun Counties were treated during 1958. No infestations were found in Randolph, Cleburne, Cherokee, De Kalb, Marshall, Jackson, Lawrence, Winston, Marion, Franklin, Lauderdale and Coffee Counties. In the remainder of the State, an estimated 11,116,887 acres are infested or exposed to infestation and approximately 50 percent of this acreage would have to be treated in order to eradicate the species. Since the beginning of the program, 285,667 acres have been treated in the State.

Beneficial Insects: Beneficial insects played a very important part in insect control during 1958. BRACONIDS were prevalent in most cotton areas, attacking boll weevil. Many BRACONID parasites were also taken from cotton leafworms. SYRPHID FLY larvae were present in most areas and were especially abundant on corn in some areas. A BIG-EYED BUG (*Geocoris punctipes*) occurred in large numbers in southern and southeastern areas in early April. As the season progressed, populations increased in other areas. CONVERGENT LADY BEETLE (*Hippodamia convergens*) populations were above normal early and remained so in many areas throughout the year. Two COCCINELLIDS (*Coleomegilla fuscilabris* and *Cycloneda sanguinea*) were rather scarce during early season, but increased later. GOLDEN-EYE LACEWING (*Chrysopa oculata*) occurred in oat, wheat and cotton fields during the spring and early summer.

A PORTABLE FIELD CAGE FOR INSECTS

The portable cage presented here appears to fill a gap in the cage equipment field. The units for this cage can be easily transported to the field and quickly erected over a small plant, around the stem of a tree, or in a box in the laboratory. Whereas permanent cages are often prohibitively heavy for one man to handle, the units of this one are quite light. Finally, three disassembled cages take up less space in a truck than one permanent cage.

All parts of the portable field cage are of a standard dimension, thus simplifying cutting and machining. The units are constructed of treated lumber 2 inches square and 36 inches long; any convenient size can be used, depending on immediate or anticipated problems. Framing for half of the units is machined with a 3/8-inch tongue along one face of each cornerpost; a 3/8-inch groove is machined in one face of the remaining cornerposts. After the material is machined, it is joined to form the units shown in Fig. 1.

The opening in each unit may be covered with either plastic or bronze screening; usually 20 x 20 mesh prevents the escape of most insects. The opening in the units may be modified to fit the need of various investigations: some may be covered with plywood, some may be covered with cloth, and some may even be provided with doors and windows.

Pieces of 1/16-inch steel plate, 4 inches or more wide, should be fastened to the bottom of each unit along its perimeter. This plate is easily forced into the ground and prevents insects and other organisms from burrowing into or out of the assembled cage. The steel plate also provides rigidity and helps anchor the cage in place.

After the units are fitted together to form a cage, a means of holding the posts tightly against each other is desirable. Loose pin hinges are quite handy for this purpose (fig. 2).

Additional tongues and grooves in the units adapt this simple cage to an infinite variety of multiple-unit cages of many sizes and shapes. In fact, with a little ingenuity the units could be used to construct something as large as a portable insectary. (Charles F. Speers, Forest Service, U. S. D. A., S. E. For. Exp. Sta.).

AN ADJUSTABLE PORTABLE FIELD CAGE

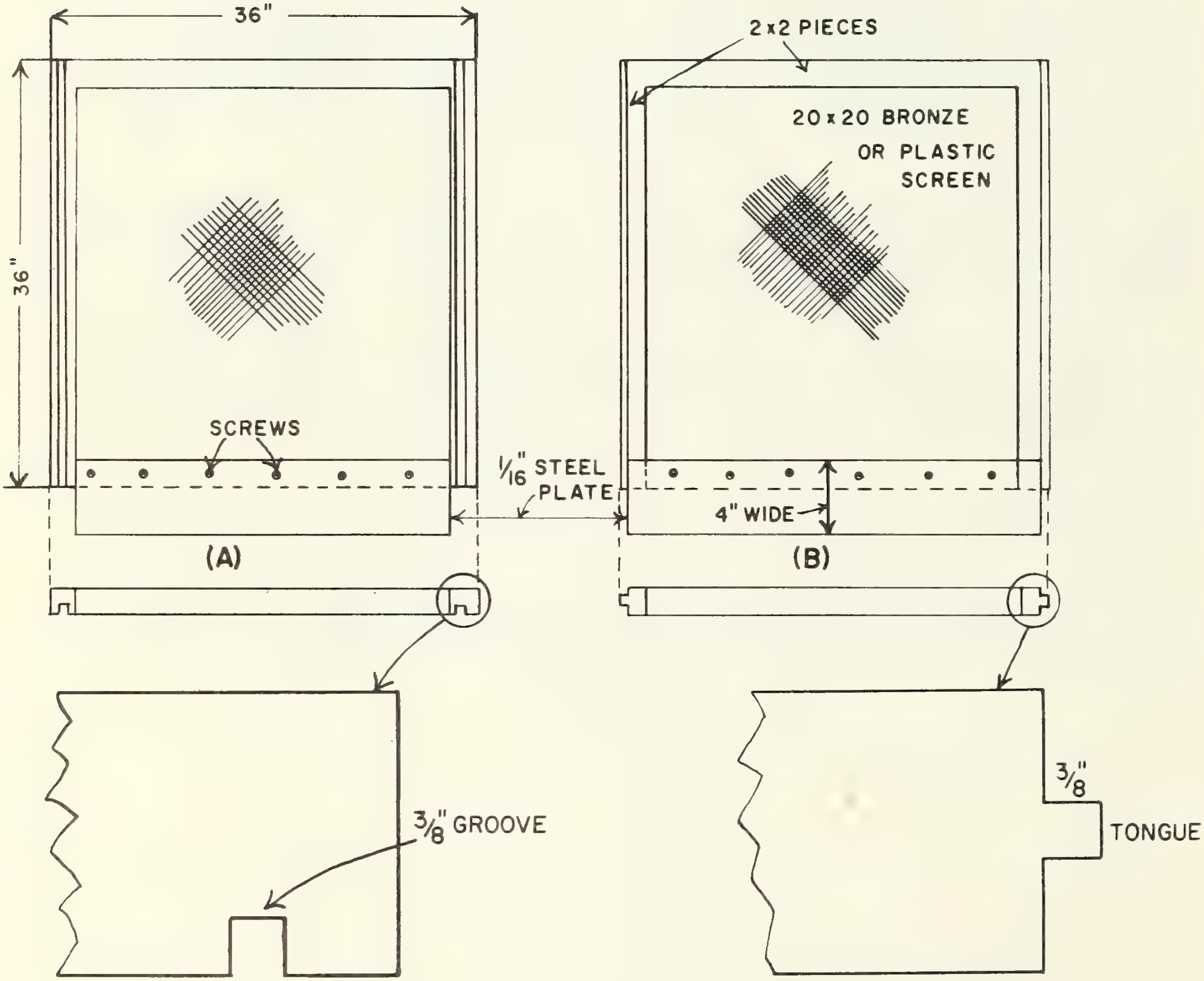

Figure I. Units of portable field cage.

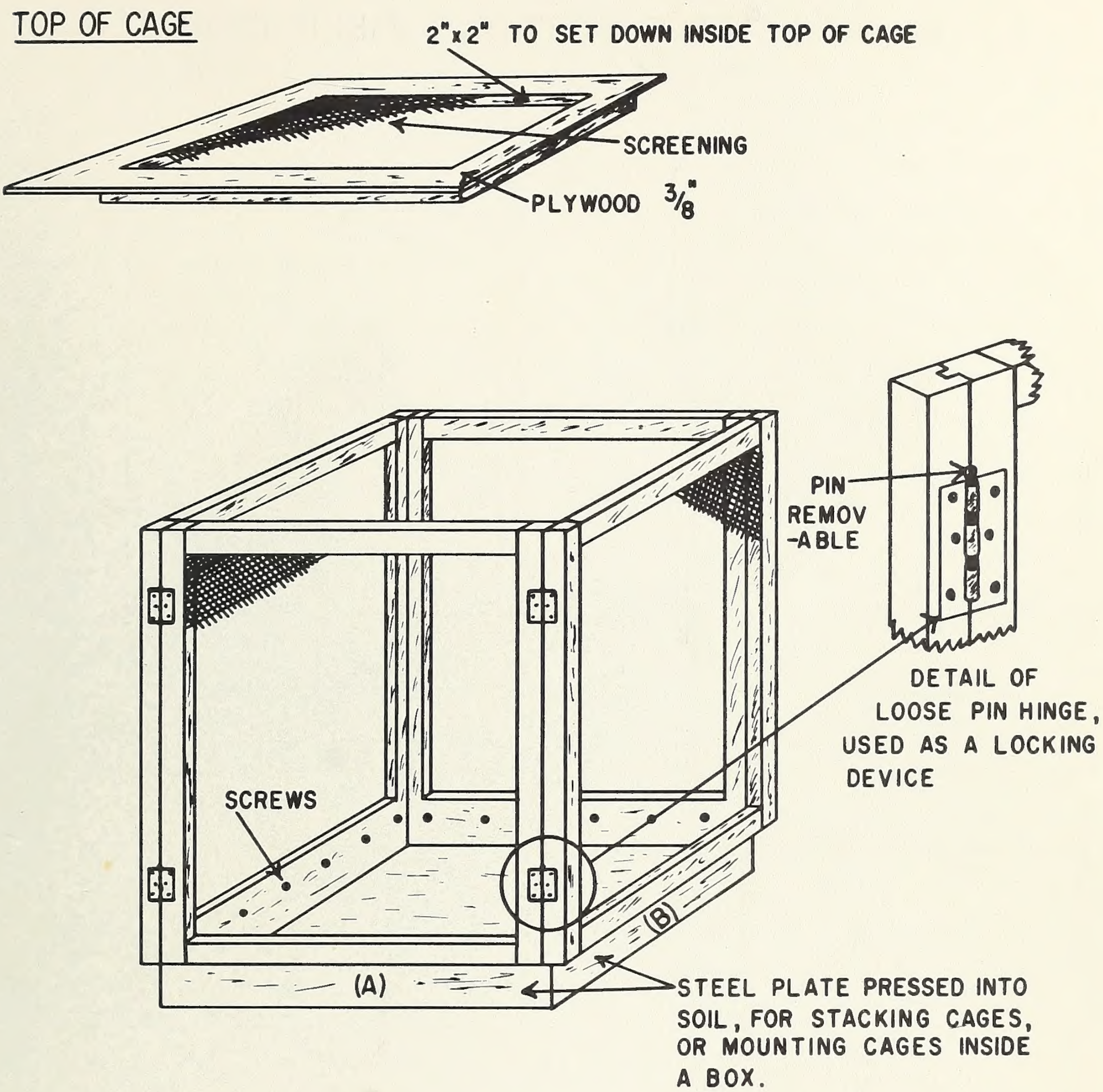
TOP OF CAGE
2"x2" TO SET DOWN INSIDE TOP OF CAGE
SCREENING
PLYWOOD 3/8"
PIN REMOV-ABLE
DETAIL OF LOOSE PIN HINGE, USED AS A LOCKING DEVICE
SCREWS
(A)
(B)
STEEL PLATE PRESSED INTO SOIL, FOR STACKING CAGES, OR MOUNTING CAGES INSIDE A BOX.

Figure 2. Cage assembly.

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